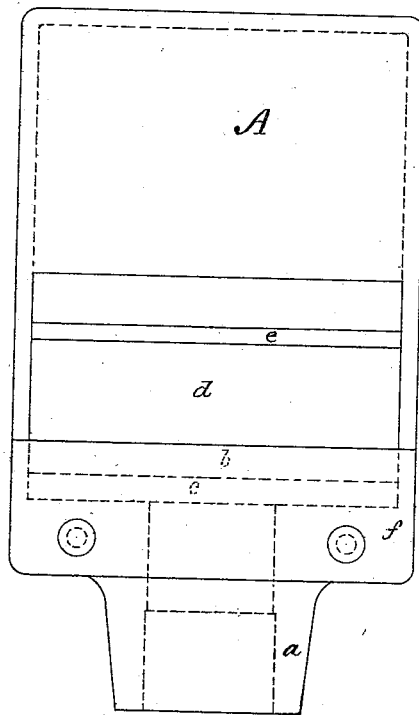


J. B. BARNES.  
Steam-Whistle.

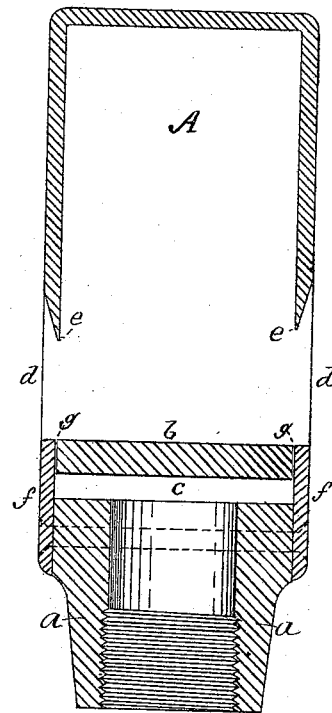
No. 217,851.

Patented July 29, 1879.

*Fig. I.*



*Fig. II*



*Witnesses:*

*Wm. B. Schoenlein.*

*Chas. H. Lape*

*Inventor:*

*Joshua B. Barnes*  
*Chas. H. Fowler,*  
*Attorney.*

# UNITED STATES PATENT OFFICE.

JOSHUA B. BARNES, OF FORT WAYNE, INDIANA.

## IMPROVEMENT IN STEAM-WHISTLES.

Specification forming part of Letters Patent No. 217,851, dated July 29, 1879; application filed June 10, 1879.

*To all whom it may concern:*

Be it known that I, JOSHUA B. BARNES, of Fort Wayne, in the county of Allen and State of Indiana, have invented a new and valuable Improvement in Steam-Whistles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my invention, and Fig. 2 is a vertical section of the same.

This invention has relation to that class of steam-whistles which are used on locomotives and other engines, and the object thereof is to simplify, as well as reduce the cost in the manufacture, by forming the bowl and principal parts of the whistle out of a single piece of metal by the process of casting and coring; and it further has for its object to so construct the whistle in its several parts that when the steam leaves the openings in the bowl the vibrations will be caused necessary to produce the required sound, which are intensified by the resonant vibrations within the bowl of the whistle, as will be hereinafter more fully described.

In the accompanying drawings, A represents the bowl of the whistle, formed with screw-sleeve *a*, by which the whistle is secured to the steam-pipe or other connection. Above the opening in the sleeve *a* is a partition, *b*, sufficient distance being left between it and the bottom of the bowl to form a space, *c*, where the steam enters after escaping from the steam-pipe into the sleeve *a*.

The bowl A is formed with side openings, *d*, immediately above the partition *b*; also, beveled edges *e*, running the entire length of the openings. These beveled or sharp edges *e* split the steam as it is forced against them in such a manner as to cause the vibrations requisite to produce sound that will be sharp and clear. Otherwise, were the edges thick or wide, noth-

ing but a dull and dead sound would be the result.

The partition *b* is somewhat less in width than the width of the interior of the bowl A, so that when the side pieces, *f*, are secured in place a space, *g*, will be left the entire length of the partition, and upon each side thereof, for the steam to escape after passing into the space or chamber *c*.

The side pieces, *f*, may be secured by bolts, screws, or any other suitable means, and any metal may be used in casting the whistle that is found adapted to the purpose.

It will be noticed that the entire whistle, with the exception of the side pieces, *f*, is cast from one and the same piece of metal, the openings *d*, spaces *g*, chamber *c*, as well as the opening in the sleeve *a*, being formed by inserting cores in the process of casting.

As the whistle comes from the mold with all the steam passages and openings formed in it, it is only necessary to plane off the sides against which the pieces *f* (which are also planed) are secured, thereby greatly lessening the cost in their manufacture, as well as producing a whistle perfect in its operation, and in which the escaping steam will be caused to produce a sharp and shrill sound.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A steam-whistle the bowl of which has beveled edges *e* above the steam-openings *d*, substantially as and for the purpose described.

2. The bowl A, formed with beveled edges *e*, openings *d*, partition *b*, and chamber *c*, in combination with side pieces, *f*, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOSHUA B. BARNES.

Witnesses:

WM. WILSON,

WM. B. SCHOENHEIN,